



## **CAREER OPPORTUNITY**

### **U.S. DEPARTMENT OF TRANSPORTATION FEDERAL RAILROAD ADMINISTRATION (FRA)**

**ANNOUNCEMENT NUMBER:** FRA-05-36V  
**POSITION TITLE:** Operations Research Analyst  
GS-1515-14  
GS-14: \$88,369 to \$114,882 per annum  
Full Performance Level: GS-14  
Note: This position has special job requirements.  
See page 3.

**POSITION LOCATION:** Federal Railroad Administration  
Office of Railroad Development, Office of Policy  
Systems, Analytical Systems Staff,  
Washington, DC

**AREA OF CONSIDERATION:** Government Wide (Status Candidates Only.)  
(Candidates eligible for special appointing authorities and for consideration under the Career Transition Assistance Program and Interagency Career Transition Assistance Program also may apply.)

**OPENING DATE:** 03-31-05

**CLOSING DATE:** 04-20-05

**NUMBER AND TYPE:** One Full-Time Permanent Position

Due to U.S. mail delays, it is recommended that applicants fax, use a professional delivery service (i.e., FedEx, UPS, etc.), email, or personally deliver applications to ensure timely receipt.

#### **DOT is an Equal Opportunity Employer**

All qualified applicants will be considered regardless of political affiliation, race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or other non-merit factors. DOT provides reasonable accommodations to applicants with disabilities. If you need a reasonable accommodation for any part of the application and hiring process, please notify us. Decisions on granting reasonable accommodation will be made on a case-by-case basis.

**Why Work For Us?** Transportation impacts every facet of American life, providing people access to work, school, loved ones, and nature's rich bounty. The U.S. Department of Transportation is committed to transportation excellence and strives to create the best possible integrated air, land, and sea transportation system for America. As a DOT employee, you will become a part of the dedicated workforce who works day-to-day to make measurable improvements in our transportation system, the security of our nation, and the quality of American life.

The Federal Railroad Administration, an Operating Administration under the Department of Transportation, was created to promote and enforce safety throughout the U.S. railroad system, rehabilitate the Northeast Corridor rail passenger services, consolidate Federal support for rail transportation, and support research and development for rail transportation for passengers, railroad employees and the general public.

**Summary Of The Essential Job Functions: As an Operations Research Analyst, you will be required to:**

- Review, analyze, and develop complex mathematical models. Plan, conduct, and review analyses in support of safety and economic impact analysis.
- Formulate and carry out research plans in support of FRA's programs and the railroad industry. Identify and serve as directed on various Departmental interagency and government/industry working groups related to GIS, traffic data and other rail-related network and traffic data analysis. Assists such groups in planning and executing specific analytical tasks and in preparing written reports and recommendations. Exercises independent judgment as FRA's and/or DOT's representative. Analyze a variety of rail-related issues including GIS, traffic analysis, and certain rail operational and environmental issues. Develop research designs and complex mathematical models, plan methods, interpret findings, and prepare final reports, including recommended policy actions.
- Develop techniques compatible with FRA databases to provide customers with rail and rail-related statistics. Develop software to enhance the value of FRA information assets, such as FRA's the Rail Network GIS, Waybill data, TransCAD and the National Grade Crossing Inventory Database, to the user community. Enhance the modeling capability of FRA software tools to provide the decision support necessary to promote FRA's strategic goals. Maintain contact with FRA customers to promote FRA modeling techniques and provide technical assistance.
- Identify potential software development and research projects and secure approval for such projects. Acts as the Contracting Officer's Technical Representative (COTR) for contracts. Prepare work statements, review contractor proposals, supervise contractor's efforts, review project reports, approve progress payments, and review completed work for technical accuracy and completeness. Manage contracts on a daily basis taking actions regarding: changes in research requirements; evaluations of proposed funding levels; assessments of the quality of the research; and resolution of problems that might arise during the life of the contract.
- Establish and maintain a network of contacts with functionaries in FRA, DOT, with various rail industry company representatives, and with individuals associated with the full range of the transportation environment. The incumbent draws upon this network to keep abreast of changing conditions within the railroad industry. As a recognized agency expert, prepares reports and communicates highly complex, technical information to others.

## **What Are The Minimum Qualifications For This Position?**

All applicants must meet the basic requirement as Basic Requirements: Candidates must have completed a full four-year professional engineering curriculum leading to a bachelor's degree or higher degree in operations research; or at least 24 semester hours in a combination of operations research, mathematics, probability, statistics, mathematical logic, science, or subject-matter courses requiring substantial competence in college-level mathematics or statistics. At least 3 of the 24 semester hours must have been in calculus. Evaluation of Education. The primary requirement of operations research work is competence in the rigorous methods of scientific inquiry and analysis rather than in the subject matter of the problem. Therefore, applicants should have sufficient knowledge of applied mathematics to understand and use the fundamental concepts and techniques of operations research methods of analysis. In addition, some positions may require knowledge of a specific subject area. Courses acceptable for qualifying for operations research positions may have been taken in departments other than Operations Research, e.g., Engineering (usually Industrial Engineering), Science, Economics, Mathematics, Statistics, or Management Science.

The following are illustrative of acceptable courses: optimization; mathematical modeling; queueing theory; engineering; physics (except descriptive or survey courses); econometrics; psychometrics; biometrics; experimental psychology; physical chemistry; industrial process analysis; managerial economics; computer science; measurement for management; mathematical models in social phenomena; and courses that involved application of operations research techniques and methodologies to problems of management, marketing, systems design, and other specialized fields; or other comparable quantitative analysis courses for which college-level mathematics or statistics is a prerequisite. Courses in theory of probability and statistics are highly desirable, but are not specified as minimum educational requirements because to do so would possibly exclude some applicants who would otherwise be well qualified.

In addition to meeting the basic qualification requirements listed above, all applicants also must possess 52 weeks of specialized experience at least equivalent to the next lower grade in the normal line of progression for the occupation in the organization. All status candidates must meet time-in-grade requirements. Qualifications and time-in-grade requirements must be met by the closing date of the announcement.

### **Specialized Experience:**

You must have at least one year of specialized experience in or directly related to the essential job functions described above. For Federal employees this experience must have been at the next lower grade level (GS-14). **Education: (can not be substituted for experience.)**

**Specialized Experience:** Experience using qualitative and quantitative analysis, computer programming and software development; GIS; traffic analysis, transportation safety analysis; research techniques; and oral and written communication. The specialized experience should clearly demonstrate that the candidate possesses the knowledge, skills, abilities and other characteristics (KSAOCs) required by this position that is listed below.

## **What Are The Required Knowledge, Skills And Abilities For This Job?**

- Expert professional knowledge of current and advanced theories, procedures, principles, and practices in operations research, GIS, large scale data analysis and statistical modeling techniques, in order to evaluate railroad issues of interest to FRA and to develop supporting data and recommendations.

- Skill in conducting operations research analysis and investigations to apply new developments and theories to resolve critical problems.
- Skill in preparing and delivering briefings on study results and recommendations to a wide variety of audiences.
- Skill in the use of current and advanced analytical techniques using mathematics, computer science, economics and transportation planning.
- Skill in applying qualitative and quantitative analysis techniques in the collection, summary and analysis of transportation-related data.
- Knowledge of and experience in the use of the following U.S. Railroad network: Geographic Information Systems; Surface Transportation Board's Waybill Sample; and of FRA's Grade Crossing Inventory.

### **How Will The Qualified Applicants Be Further Evaluated And Rated To Identify The Best Qualified?**

If you are basically qualified for this job, you will be further evaluated on the quality and extent of your total accomplishments, experience and education related to the knowledge, skills and abilities listed above. We also may consider your performance appraisal, awards, and relevant training. Your ranking will measure the degree to which your background matches the demands of this position.

**What Employee Benefits Do We Provide?** The Federal Government offers excellent benefits, flexible work schedules and family-friendly programs. You will receive paid annual leave and sick leave. This is a permanent position and you will be eligible for retirement, health insurance, life insurance and Long Term Care insurance. A brief summary of the Federal benefits for permanent employees can be found at [www.usajobs.opm.gov/EI61.htm](http://www.usajobs.opm.gov/EI61.htm).

### **Before You Go Any Further, Here Are Some Other Things You Need to Know**

- United States citizenship is required. (Proof of citizenship will be required to be shown upon appointment.)
- If you are a male between the ages of 18 and 26 or were born after December 31, 1959, certification is required at the time you are employed that you have registered with the Selective Service for the draft, unless Selective Service has approved a waiver for you.
- Applicants must meet the qualification requirements by the closing date of the announcement. Federal applicants also must meet time-in-grade requirements by the closing date.
- If you are selected or among the best qualified candidates for this position, you will be subject to a determination of your suitability for Federal employment.
- Before being hired you will be required to sign and verify the accuracy of the information in your application if you have not done so using an application form such as the OF 612.
- If an FRA employee is selected, travel and transportation expenses will be paid if the selection results in a promotion OR for a geographical reassignment if the FRA selectee

occupies a position that has significantly different duties from that of this position vacancy. If a candidate outside FRA is selected, travel and transportation expenses will not be paid.

- The FRA has determined that seniority rights/reemployment rights and leaves of absence from railroads constitute an actual or an appearance of a conflict of interest. Therefore, if the individual selected for a position is already an FRA employee who has reemployment rights which will create a conflict of interest in this position, she/he will be required to divest any reemployment rights held before the selection is finalized. If an FRA employee is selected who has reemployment rights that will not create a conflict of interest in the position, the employee may retain these rights as long as the conflict does not exist.
- FRA employees are prohibited from owning railroad stock, except, under certain circumstances, as part of a diversified mutual fund.
- If selected, you will be subject to the Standards of Ethical Conduct applicable to all DOT employees.
- Applicants with “competitive status” as current or former Federal Government employees may be given first consideration.
- Veterans who are preference eligibles or who have been separated from the armed forces under honorable conditions after 3 years or more of continuous active service are eligible to apply.
- Position requires frequent travel.

### **How To Apply For This Position**

- You must submit your current SF-171 (Application for Federal Employment), Resume, or an OF-612 (Optional Application for Federal Employment). You may choose which form to submit provided it contains all required information. Required information is listed in the section below labeled “Here’s What Your Application Must Contain.”
- For maximum consideration, tell us how you meet the "Knowledge, Skills and Abilities (KSAs)" for this position. The KSAs for this position are found above.
- For Federal applicants, a complete performance appraisal is required. It must be current – meaning it was issued to you within the past year – and it must be official – meaning it appraises your performance over a normal rating cycle in your present job and has been signed by your supervisor. If you are unable to submit your current performance appraisal, please tell us why. You also should submit a copy of your latest SF-50 "Notification of Personnel Action" that reflects career or career-conditional tenure.
- To be considered for selection priority under the Career Transition Assistance Program (CTAP) and/or the Interagency Career Transition Assistance Program (ICTAP), you must submit appropriate certification that you are eligible. In addition, you must be determined to be well-qualified for the position. **Well-qualified applicant:** An eligible applicant who meets all qualifications, standards, and eligibility requirements for the position, including medical qualifications; minimum educational and experience requirements; selective placement factors; knowledge, skills, and abilities (KSAs);

quality ranking factors; and any other special qualifying conditions, and is able to satisfactorily perform the duties of the position upon entry.

## **Where To Send Your Application**

- You may **mail or deliver** your application to the Federal Railroad Administration, Office of Human Resources, 1120 Vermont Avenue, NW., 6<sup>th</sup> Floor, Washington, DC 20590.
- If you are faxing your application, please limit the application to **a maximum of 20 pages** and include a cover sheet. Our fax number is (202) 493-6169. We will not accept applications faxed from a Federal Government fax machine.
- ALL applications must be in our office or postmarked by the closing date of the announcement.
- Applications mailed in a Government envelope will not be accepted.

### **HERE'S WHAT YOUR APPLICATION MUST CONTAIN**

#### **JOB INFORMATION**

- Announcement number and title of the position

#### **PERSONAL INFORMATION**

- Full name
- Mailing address (with Zip Code)
- Social Security Number
- Country of citizenship (Most Federal jobs require United States citizenship)
- Veterans' preference  
**(Proof Required – Attach DD 214)**
- Federal employees & Reinstatement eligibles (**Attach SF-50**)
- Highest Federal civilian grade held

#### **EDUCATION**

- High School name, city, state, and date of diploma or GED
- College/University names, city, and state
- Major(s)
- Type and year of degree(s) received

#### **WORK EXPERIENCE**

(paid and unpaid)

- Job Title
- Duties and accomplishments
- Employer's name and address (indicate if we may contact your current supervisor)
- Supervisor's name and telephone number
- Starting and ending dates (month and year)
- Hours per week
- Salary and/or Grade (GS-or equivalent)

#### **OTHER QUALIFICATIONS**

- Job-related training courses (title and year)
- Job-related skills (e.g., foreign languages, computer software/hardware, etc.)
- Job-related certificates and licenses (current only)
- Job-related honors, awards, and special accomplishments (e.g., memberships in professional or honor societies, leadership activities, public speaking, performance awards and publications) (give dates)

**Privacy Act Requirements:** The forms referenced in this announcement are used to determine applicants' qualifications for the position and are authorized under 5 U.S.C. 3302 and 3361.

## **Questions?**

Call Valerie Jones at (202) 493-6117 or TDD (202) 493-6487 or 6488, or email at [Valerie.jones@fra.dot.gov](mailto:Valerie.jones@fra.dot.gov). Please reference the announcement number so we can help you more efficiently.

Para mas informacion en espanol sobre este anuncio de vacante o cualquier otra information sobre empleo en las Federal Railroad Administration (FRA), por favor llame a Francisco Gonzalez 202/493-6076. La FRA es un empleador con igualdad de oportunidad en el empleo, y que por medio de programas de accion afirmativa mantiene un ambiente multicultural. Todos los que soliciten recibiran igual consideracion, sin ninguna excepcion, por raza, color, religion, sexo, origin nacional, politica, impedimento fisico o edad.

**ALTERNATIVE FORMATS:** If you need a copy of this announcement in an alternative format to accommodate a disability, please contact Marcella Mullins at [marcie.mullins@fra.dot.gov](mailto:marcie.mullins@fra.dot.gov), on (202) 493-6114 or at the TDD number (202) 493-6487 or 6488.

**REASONABLE ACCOMMODATION:** If you are requesting reasonable accommodation in connection with applying for this vacancy, please contact Marcella Mullins as listed above.